

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
3 February 2005 (03.02.2005)

PCT

(10) International Publication Number  
WO 2005/009243 A1

(51) International Patent Classification<sup>7</sup>: A61B 6/06,  
G21K 1/02

(21) International Application Number:  
PCT/IB2004/051249

(22) International Filing Date: 19 July 2004 (19.07.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
03102349.2 30 July 2003 (30.07.2003) EP

(71) Applicant (for DE only): PHILIPS INTELLECTUAL  
PROPERTY & STANDARDS GMBH [DE/DE]; Stein-  
damm 94, 20099 Hamburg (DE).

(71) Applicant (for all designated States except DE, US):  
KONINKLIJKE PHILIPS ELECTRONICS N. V.  
[NL/NL]; Groenewoudseweg 1, NL-5621 BA Eindhoven  
(NL).

(72) Inventors; and

(75) Inventors/Applicants (for US only): MOLLUS, Sabine

[DE/DE]; c/o Philips Intellectual Property & Standards  
GmbH, Weiss hausstr. 2, 52066 Aachen (DE). WEESE,  
Jürgen [DE/DE]; c/o Philips Intellectual Property &  
Standards GmbH, Weiss hausstr. 2, 52066 Aachen (DE).  
BRAESS, Henning [DE/DE]; c/o Philips Intellectual  
Property & Standards GmbH, Weiss hausstr. 2, 52066  
Aachen (DE).

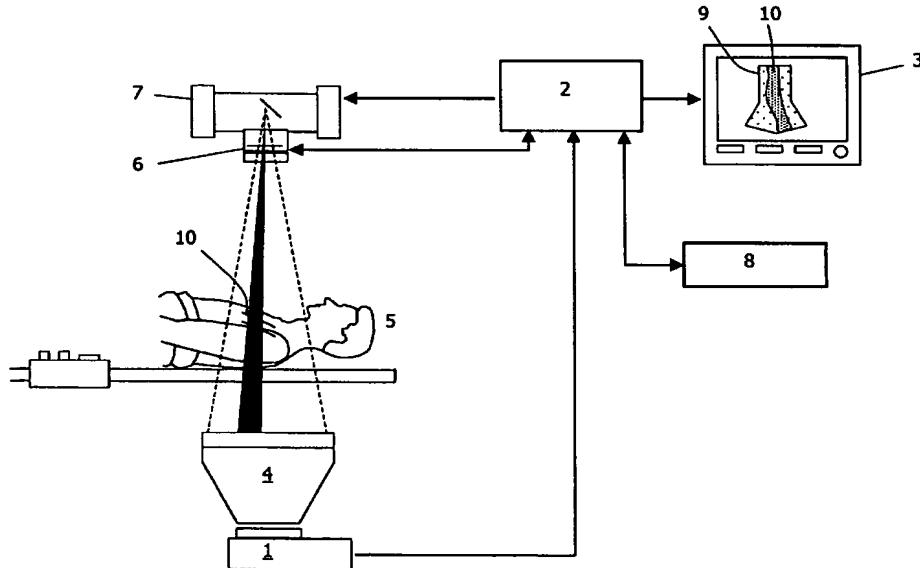
(74) Agent: VOLMER, Georg; Philips Intellectual Property &  
Standards GmbH, Weiss hausstr. 2, 52066 Aachen (DE).

(81) Designated States (unless otherwise indicated, for every  
kind of national protection available): AE, AG, AL, AM,  
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,  
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,  
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,  
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,  
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,  
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,  
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,  
ZW.

(84) Designated States (unless otherwise indicated, for every  
kind of regional protection available): ARIPO (BW, GH,  
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,

[Continued on next page]

(54) Title: X-RAY UNIT HAVING AN AUTOMATICALLY ADJUSTABLE COLLIMATOR



WO 2005/009243 A1

(57) Abstract: The invention relates to a method and a unit for automatically adjusting a collimator (6). In this connection, a region (9) of interest inside the body is determined in an application-specific way from an analysis of first X-ray pictures, and the collimator (6) is then adjusted thereon. The region (9) of interest can, in particular, be chosen to be large enough for the irradiation field to cover all those positions of an organ (10) of interest that occur as a result of heartbeat and/or respiration. Preferably, a movement estimate is undertaken during a current examination in order to be able to readjust the collimator (6) if necessary. If the region of interest cannot be localized, the collimator (6) is opened to a standard adjustment.



ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

**Published:**

— *with international search report*